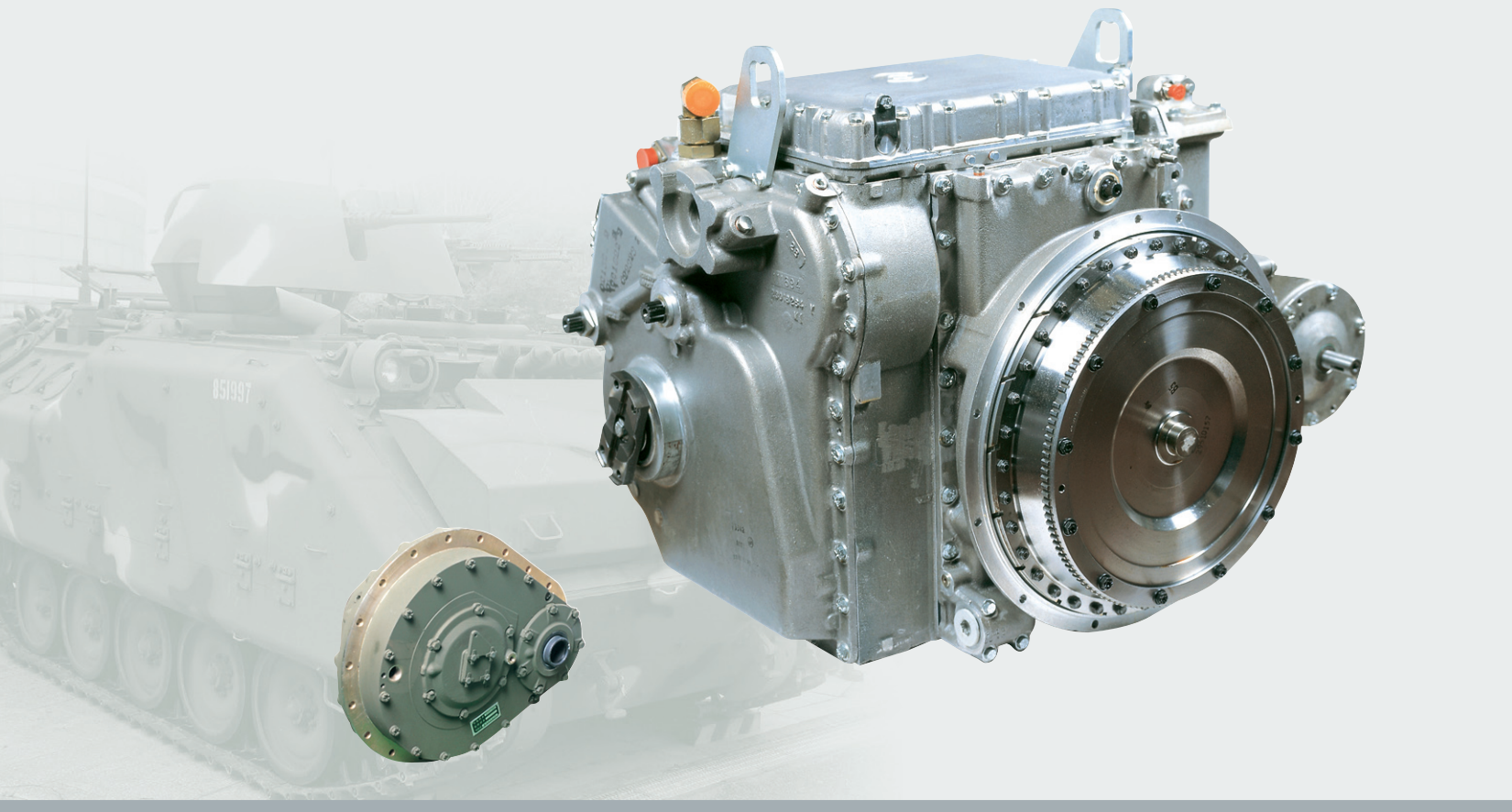


Powertrain Products

S&T Dynamics Military Products



X200-5K



Feature >

- **Input Drive** : Torque Converter with automatic lockup clutch
- **Drive Range** : Four forward and one reverse range
- **Steering Type** : Infinitely variable hydrostatically controlled differential steer
- **Shifting Control** : Fully automatic shifting
- **Brake Type** : Integral hydraulic brakes

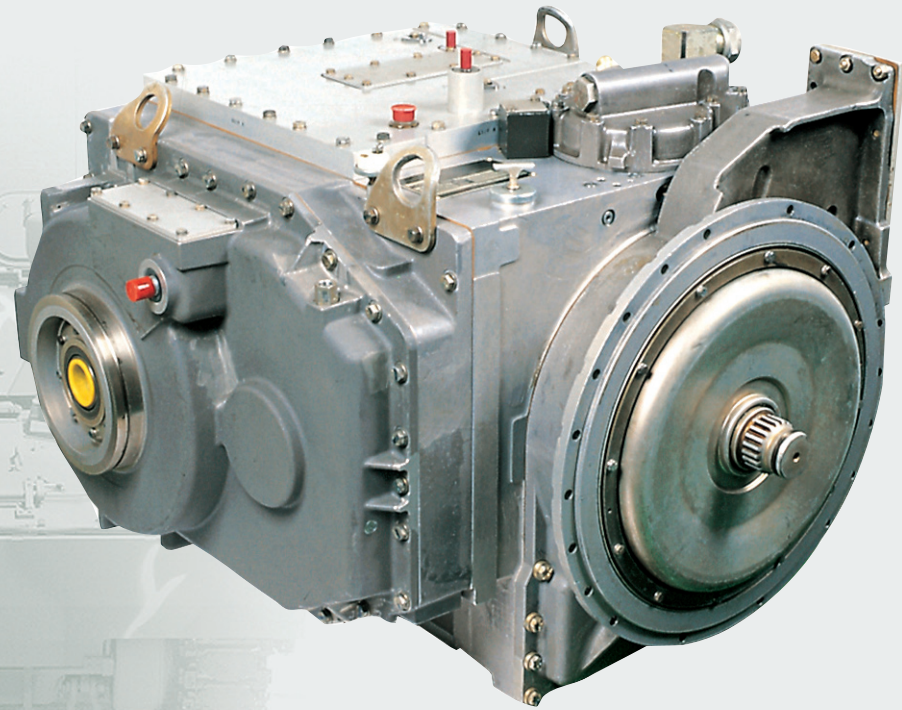
Specification >

Item	X200-5K
General rating	
Gross engine power	350 hp
Input speed	2,300 rpm
Gross vehicle weight	up to 18 tons
Torque converter	
Type	single stage, 3-elements, multiphase, automatic lockup clutch
Stall torque ratio	2,70:1
Range	Four forward, one reverse
Range control	Automatic : D(1-4), N, R, PV
Steering	infinitely variable, hydrostatically controlled differential ; housed inside transmission
Braking	Poly Phase
Type	Wet multi plate, oil cooled, inside transmission
Service	Hydraulic with Mechanical Actuation
Emergency & parking	Mechanical apply
Power takeoff provisions	
Type	Engine driven
Rating	Ratio 1,407:1, 80hp
Oil system	
Oil type	MIL-PRF-2104 15W40, MIL-PRF-46167 Arctic oil
Capacity	
Filter	Integral, replaceable dual elements
Weight(dry)	522 kg
Application	
Vehicle	K200A1, K242A1, K281A1, K263A1, K277, K216, K288A1, M113 Family
Engine	D2848T

Application >



HMPT500-3EK/4EK



국방과학연구소

Feature >

- **Input Drive** : Input disconnect clutch and hydro- mechanical unit
- **Drive Range** : Three forward and one reverse range
- **Steering Type** : infinitely variable hydro-mechanical steering
- **Shifting Control** : Fully automatic continuous variable transmission ratio control
- **Brake Type** : Mechanically actuated, oil cooled, multiple

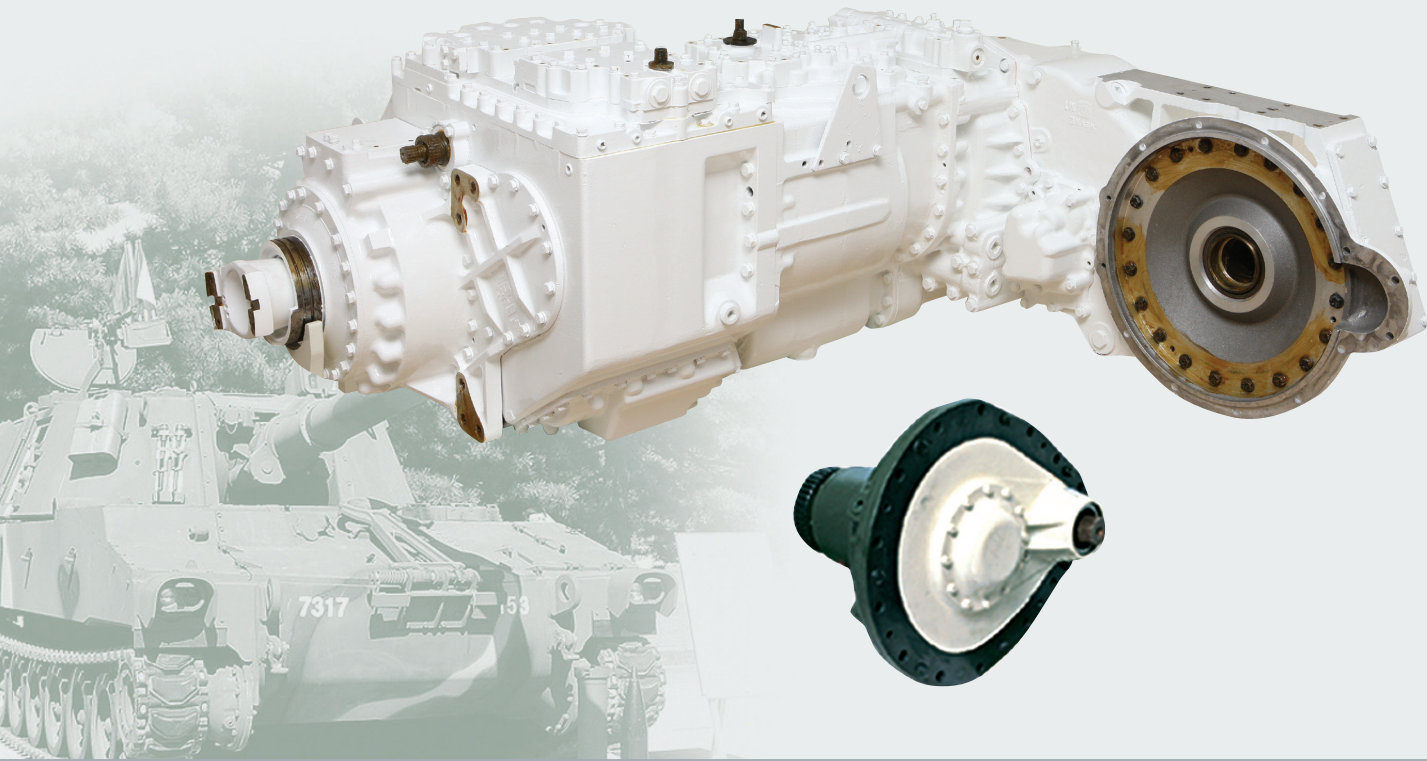
Specification >

Item	HMPT500-3EK	HMPT500-4EK
General rating		
Gross engine power	600 hp	800 hp
Max Input speed range	2,200 to 3,000 rpm	2,200 to 2,900 rpm
Vehicle weight	up to 33 tons	up to 40 tons
Output rating		
Maximum torque, N.m(lb-ft)	15,150(11,170)	17,760(13,170)
Maximum forward speed, rpm	3,300	3,570
Maximum reverse speed, rpm	544	560
Steering torque per side, N.m(lb-ft)	9,200(6,800)	10,800(8,000)
Input disconnect	Hydraulically actuated clutch to disconnect power train for reduced cold weather cranking torque and improved fuel economy at idle	
Range	Three forward, One reverse	
Control : TEC Transmission Electronic controller	The TEC automatically adjusts the transmission ratio to operate at most efficient engine speed based on throttle position and vehicle load	
Steering	True pivot, infinitely variable ratio hydro-mechanical, fully regenerative, without use of brake or clutches	
Braking		
Service and parking brakes	Mechanically actuated, oil cooled, multiple disk	
Dynamic braking	Full engine retarding torque plus limited hydrostatic retarding	
Oil system		
Oil type	MIL-PRF-2104 15W40, MIL-L-46167 Arctic oil	
Capacity	51 liters	47 liters
Filtration	40 micron	
Weight(dry)	875 kg	942 kg
Application	Pegasus, Flying Tiger	K21

Application >



XTG411-2A/4/4A



Feature >

- **Input Drive** : Torque Converter with automatic lockup clutch
- **Drive Range** : Four forward and two reverse range
- **Steering Type** : Clutch brake and geared steer
- **Shifting Control** : Power shifting
- **Brake Type** : Multi plate, oil cooled, mechanical apply

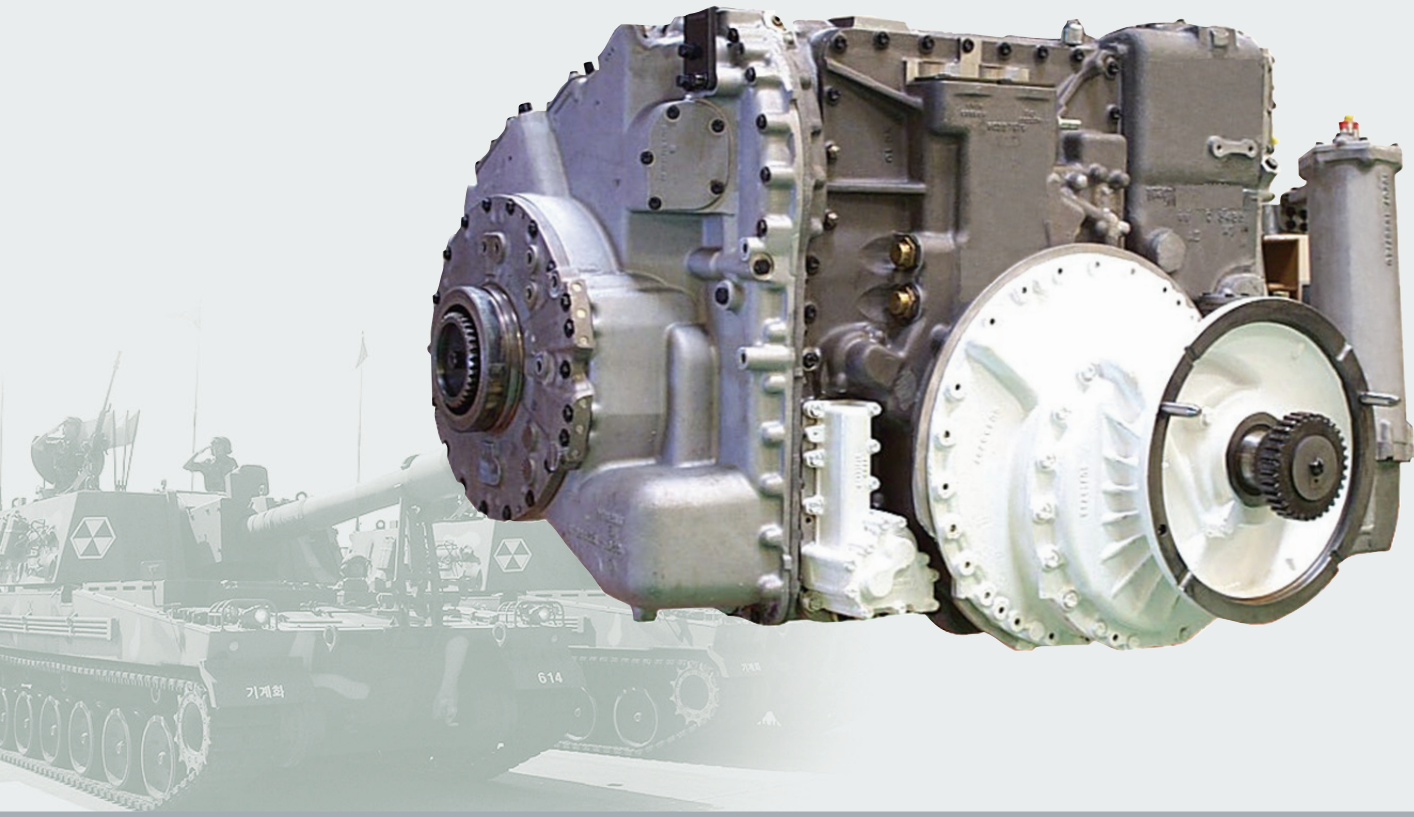
Specification >

Item	XTG411-2A	XTG411-4/4A
General rating		
Gross engine power	405 hp	650 hp
Max Input speed range	2,300 rpm	2,500rpm(XTG411-4), 2,300rpm(XTG411-4A)
Vehicle weight	up to 23 ton	up to 47 tons
Torque converter		
Type	Single stage, 3-elements, multiphase, automatic lockup clutch	
Stall torque ratio	3.3 : 1	3.0 : 1 (XTG 411-4), 3.3 : 1 (XTG411-4A)
Range		
Range control	Four forward, two reverse	
Steering		
Clutch brake (1st, 2nd, R1)	Infinite	
Geared steer (3rd, 4th, R2)	1.48 : 1	
Braking		
Type	Multi plate, oil cooled	
Service/parking	Mechanical apply	
Capacity	Up to 3.7m,sec ² deceleration rate	
Power takeoff provision		
Centerline of engine	1.0Xinput speed, full engine hp	
Front of input transfer housing	1.0Xinput speed, full engine hp	
Centerline of torque converter(Opt)	1.64Xinput speed, full engine hp	
Oil system		
Oil type	MIL-PRF-2104 15W40, MIL-L-46167 Arctic oil	
Capacity(excluding external circuit)	83 liters	
Filter		
Filter	Integral, full flow, replaceable element	
Weight(dry)		
Weight(dry)	1,084 kg	1,111 kg
Application		
Vehicle	K55, K77, M109, M107	MX992, Stingray M578
Engine	8V71T	8V92TA

Application >



X1100-5A3



Feature >

- **Input Drive** : Torque Converter with automatic lockup clutch
- **Drive Range** : Four forward and two reverse range
- **Steering Type** : Infinitely variable hydrostatically controlled differential steer
- **Shifting Control** : Fully automatic shifting
- **Brake Type** : Integral hydraulic brakes

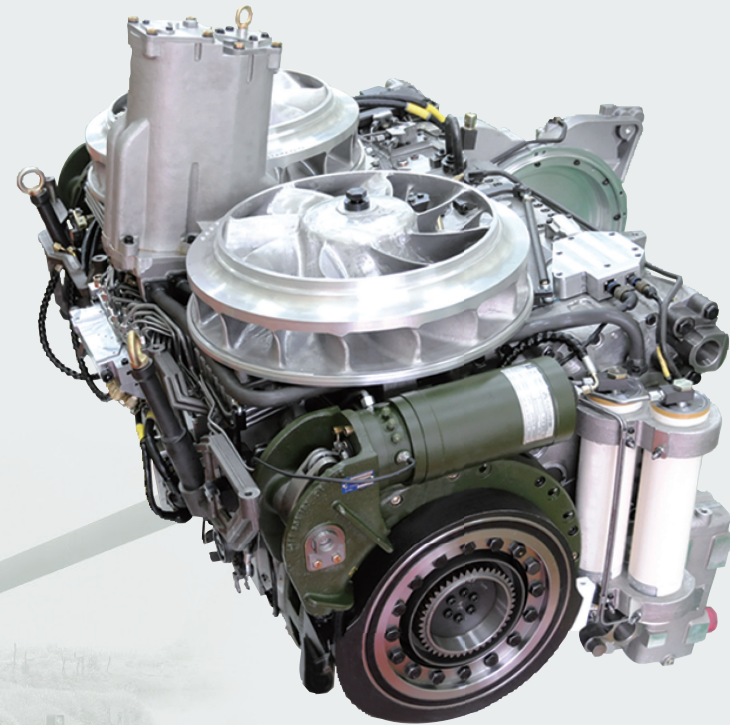
Specification >

Item	X1100-5A3
General rating	
Gross engine power	1,500 hp
Max Input speed range	2,000 to 3,000 rpm
Vehicle weight	45 to 60 ton
Torque converter	
Type	Single stage, 3-elements, multiphase
Stall torque ratio	2,98 : 1
Range	Four forward, two reverse
Range control	Automatic : L(1-4), D(2-4), N, R(1-2), PV
Steering	Infinitely variable, hydrostatically control, Pivot Steer in neutral
Braking	
Type	Wet multi plate, oil cooled
Service	Hydraulic with Mechanical Actuation
Emergency & parking	Mechanical apply
Oil system	
Oil type	MIL-PRF-2104 15W40, MIL-L-46167 Arctic oil
Capacity	110 liters
Filter	integral, replaceable dual elements
Weight(dry)	2,050 kg
Application	
Vehicle	K9, K10
Engine	MT881Ka-500

Application >



EST15K



Current Status >

- Operational Test, which is coordinated by Korean Army, has been successfully completed on May 2nd, 2013.
- All 82 requirements of Development Test, which is coordinated by Korean Agency for Defense Development, have been met, except for 9,600km Durability Test under K2 Tank-loaded condition which has been 85.4% completed by running 8,198km.

Feature >

- **Input Drive** : Hydraulic Torque Converter with automatic lockup clutch
- **Drive Range** : Six forward and three reverse range
- **Steering Type** : Infinitely variable hydrostatic/hydrodynamic superimposed steering system
- **Shifting Control** : Fully automatic shifting
- **Brake Type** : Hybrid(retarder combined with mechanical disk brake)

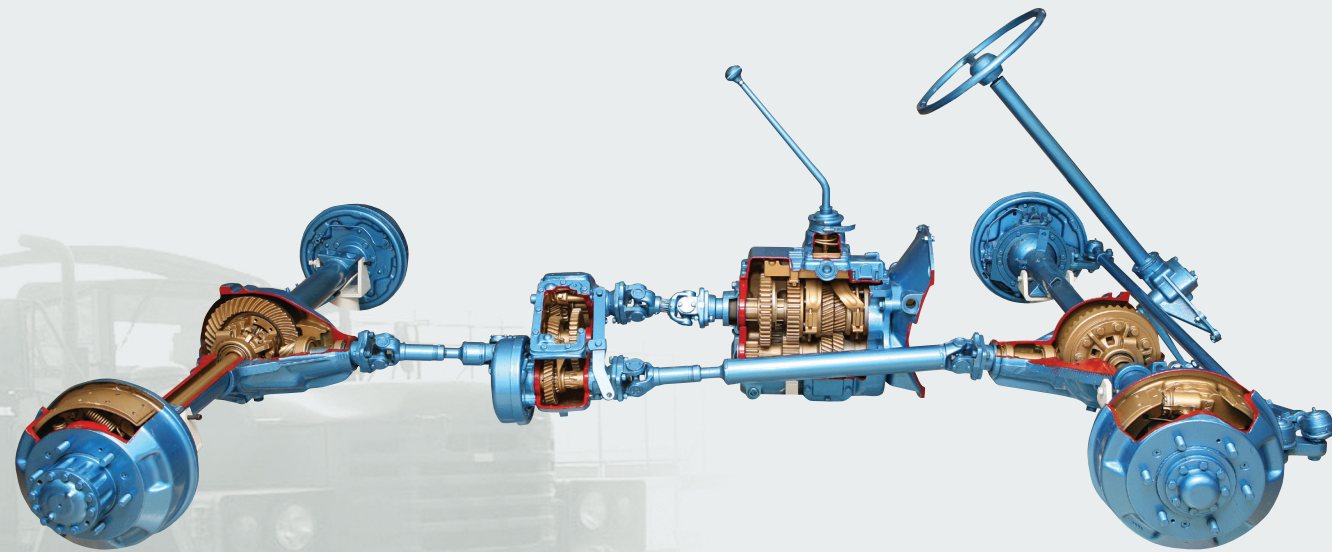
Specification >

Item	EST15K
General rating	
Gross engine power	1,500 hp ~ 1,650hp
Max Input speed range	1,800 to 3,200 rpm
Vehicle weight	up to 65 tons
Torque converter	
Type	Single stage, 3-element, multiphase
Stall torque ratio	2.3:1
Automatic lockup clutch	
Range	All range
Range control	
Range	Six forward, three reverse, Proportional valve
Steering	
Steering	Auto(2-6), Manual forward & reverse(1-3), PV
Braking	
Type	Hybrid(retarder combined with mechanical disc brake, dry)
Service	Hydraulic or mechanical power apply
Parking	Mechanical apply
Capacity	Up to 5m/sec ² deceleration rate
Oil system	
Oil type	MIL-PRF-2104 15W40, MIL-L-46167 Arctic oil
Capacity	140 Liters
Filter	Integral, full flow, replaceable dual elements
Weight (Dry)	
Weight (Dry)	2,500 kg
Application	
Vehicle	K2
Engine	Doosan DV27K / MTU MT883 Ka-501

Application >



Transmission/Transfer Case/Axle



Feature >

- S&T Dynamics develops and produces a wide range of drive train components, all meeting ISO 9001, ISO/TS 16949 standards, including transmission and drive axles which are used in military vehicle as well as special purpose vehicle. By specializing in military vehicle, S&T Dynamics powertrain has been proven to stand up to any severe punishment and to strenuous military duty. S&T Dynamics is committed to providing the outstanding military transmission and axle to global customers.

Specification >

Transmission

Model	Approx Weight	Torque Capacity	Gear Ratio						Applied Vehicle
			1st	2nd	3rd	4th	5th	rev.	
T3S5-M	106 kg	38 kgf.m	5,380	3,028	1,700	1,000	0,782	5,380	Military 5/4 ton Truck
T4S5-M	115 kg	48 kgf.m	5,979	3,500	1,857	1,000	0,799	5,040	Military 2½ ton Truck
T5S5-M	198 kg	98 kgf.m	6,071	3,402	1,785	1,000	0,779	6,086	Military 5 ton Truck

Transfer Case

Model	Approx Weight	Torque Capacity	Gear Ratio		Applied Vehicle
			High	Low	
T3S5-M	82 kg	235 kgf.m	1,000	1,940	Military 5/4 ton Truck
T4S5-M	197 kg	380 kgf.m	1,000	1,980	Military 2½ ton Truck
T5S5-M	285 kg	600 kgf.m	1,068/1,000	2,163/2,024	Military 5 ton Truck

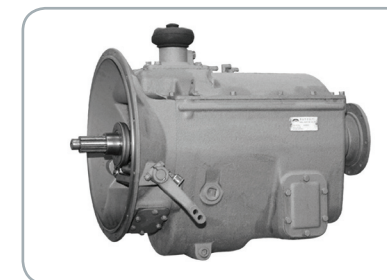
Front Axle

Model	Approx Weight	Type of Housing	Max. Load Capacity	Available Gear Ratio	Type of Axle	Applied Vehicle
O5HS	230 kg	Build Up	1,802 kg	5,125	Full-Floating	Military 5/4 ton
FC 240	380 kg	Ban Jo	3,120 kg	6,722	Full-Floating	Military 2½ ton
FM 240	700 kg	Ban Jo	4,668 kg	6,443	Full-Floating	Military 5 ton

Rear Axle

Model	Approx Weight	Type of Housing	Max. Load Capacity	Available Gear Ratio	Type of Axle	Applied Vehicle
O4HS	80 kg	Build Up	1,360 kg	5,375	Semi-Floating	Military 1/4 ton
10HA	210 kg	Build Up	2,958 kg	5,125	Full-Floating	Military 5/4 ton
C240	360 kg	Ban Jo	6,830 kg	6,722	Full-Floating	Military 2½ ton
M240	660 kg	Ban Jo	9,240 kg	6,443	Full-Floating	Military 5 ton

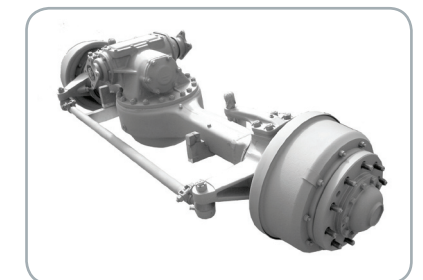
Application >



Transmission



Transfer case



Axle

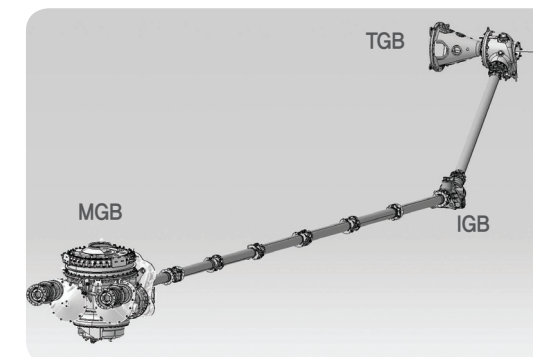
Gearbox for Korea Utility Helicopter



Specification of KUH >

Item	Korea Utility Helicopter
Capacity	2 Pilots + 2 Crews + 9 Troops
Range	450 km
Ceiling	
Hover Ceiling OGE	6,000 ft
Service Ceiling	13,000 ft
Power Plant	
Maximum Rated Power	1,382 kw
Intermediate Rated Power	1,325 kw

Structure >



Shaft >



Tail Rotor Drive Shaft



Torque Tube

Feature >

- It transfers power of engine to tail rotor blade
- Possible to continue flight longer than 30 minutes under non-lubrication state
- High performance, high efficiency, light weight, high reliability, and low noise
- Designed for retaining bulletproof performance of 12.7mm

Application >



Rotor & Drive System for UAV

Smart Remotely Piloted Vehicle Rotor & Drive System



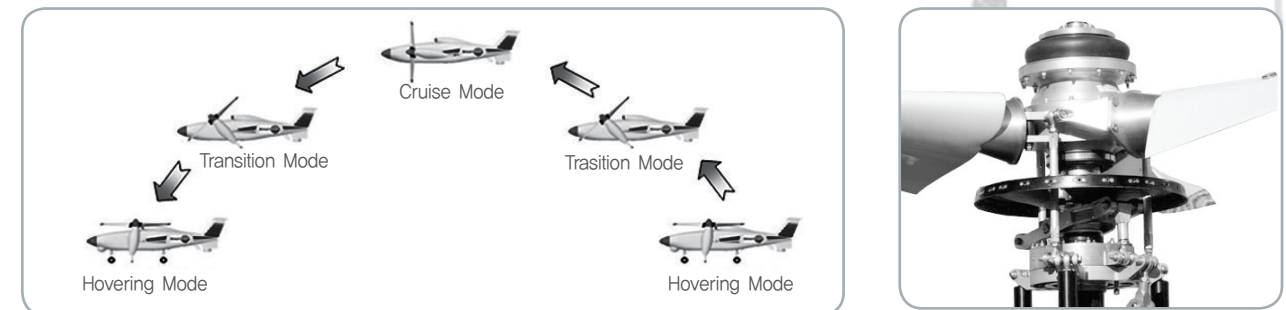
Feature >

- Technology development project for smart unmanned aircraft is the development project of intelligent unmanned aircraft of the next generation including unmanned aircraft, which has core smart functions such as automatic flight, collision perception and aversion etc, for obtaining remote image information in real time, day and night, and communication and ground control system

Specification >

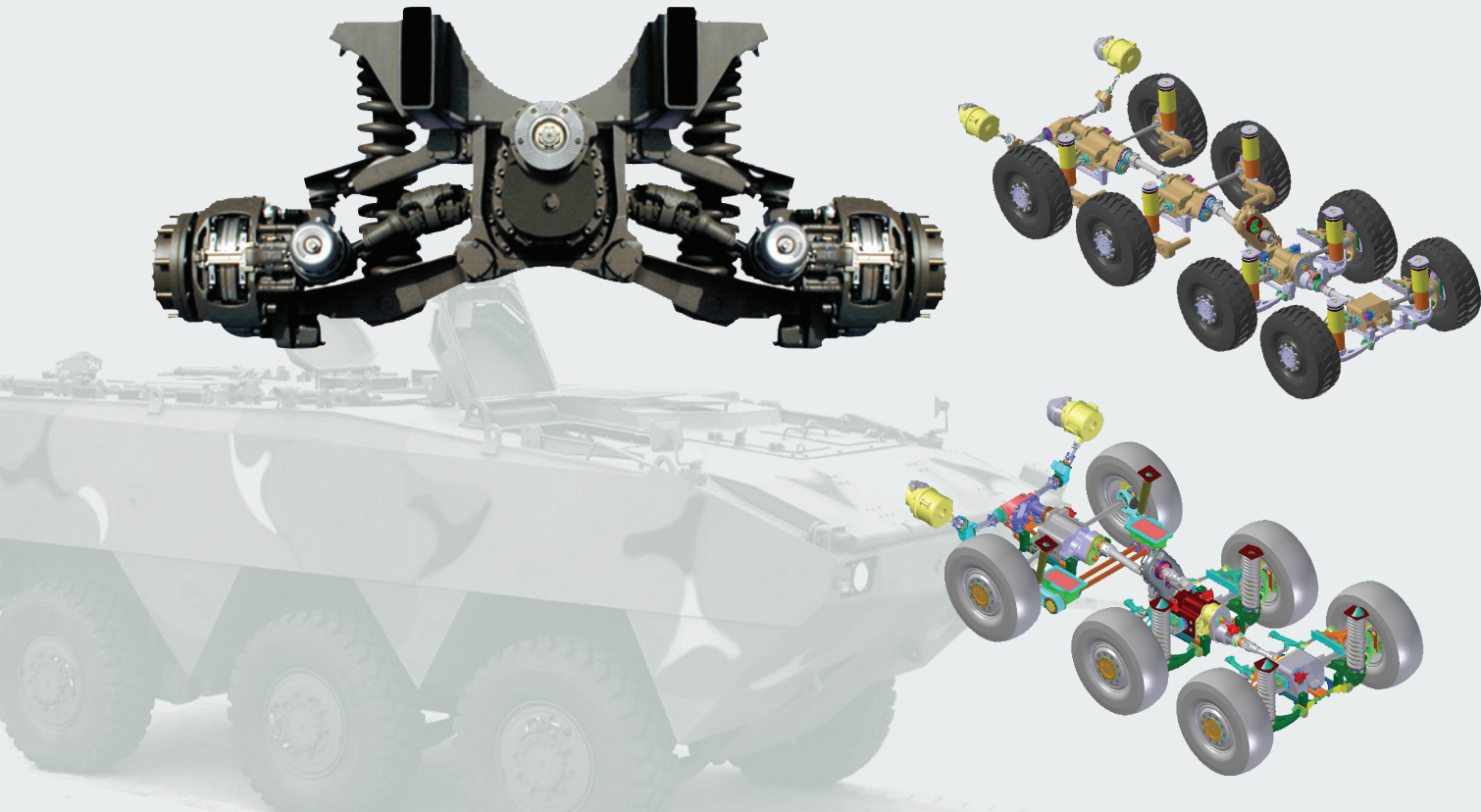
Item		Rotor & Drive System for UAV	
Gear Box		Center	Rotor
Helicopter Mode	Pinion Speed(rpm)	6,000	1,605
	Gear Ratio	3,73832	
Air Plane Mode	Pinion Speed(rpm)	4,800	1,284
	Gear Ratio	3,73832	
Design Life (hour)		4,000	

Application >



Independent Suspension

Drive Line



Specification >

Item		Independent Suspension
Application Vehicle		Military Wheeled Vehicle
Max. Input Torque		10,000 Nm
Max. Input RPM		4,000
Steer/ Suspension	Bound	18°
	Forward	27°
Chassis Type		4×4, 6×6, 8×8
Brake	System	ABS
	Type	Disc Brake
Suspension Type		Double Wishbone (Coil & Damper)
Tire Radius		580 mm
Rebound		16°
Backward		34°
Final Gear Ratio		7.05

Application >



Feature >

- Disengagement of Wheels for Swimming
- ADM with Dog Clutches
- CTIS (Central Tire Inflation System)
- Direct-coupled Transfer Case
- Parking Brake at Transfer Case
- High Tractive Effort
- More Comfortable Performance
- More Durability

Powertrain Products
Best Technology & Best Quality



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